

REMARKS AND ARGUMENTS

Pending claims 1-31 were examined and finally rejected. At ¶5 of the final Office Action, claim 22 was rejected for indefiniteness in not further limiting parent claim 20. At ¶7 of the final Office Action, claims 1, 2, 5, 6, 8-11 and 14 were rejected under 35 USC §102(a) as being anticipated by USP 6,522,598 to Yasui. At ¶9 of the final Office Action, claims 3, 4, and 12 were rejected under 35 USC §103(a) as being unpatentable over Yasui '598 in view of Breed et al. US Pub. 2001/0003168. At ¶10 of the final Office Action, claim 13 was rejected under 35 USC §103(a) as unpatentable over Yasui '598 in view of USP 5,785,347 to Adolph et al. At ¶12 of the final Office Action, claim 7 was rejected under 35 USC §103(a) as unpatentable over Yasui '598 in view of USP 6,116,638 to Hosoda. At ¶12 of the final Office Action, claims 15-25, and 28-30 were rejected under 35 USC §103(a) as unpatentable over Yasui '598 in view of USP 6,302,438 to Stopper et al. At ¶13 of the final Office Action, claims 26, 27, and 31 were rejected under 35 USC §103(a) as unpatentable over Yasui '598 in view of Stopper 438, and further in view of Breed.

In response to the within Final Office Action, applicants have filed a Request for Continued Examination, and a Petition for a three-month time-extension, and have paid the associated fees for each. Claims 1-31 have been amended to better distinguish over the art of record.

**AMENDED CLAIM 1 IS PATENTABLE OVER YASUI '598
AS ARE ALL CLAIMS DEPENDENT FROM AMENDED CLAIM 1**

Applicants have amended claim 1 to recite that the present invention acquires a plurality of frames of time-of-flight (TOF) three-dimensional depth images, from which data representing occupancy of a vehicle seat being imaged may be determined with a higher confidence level than if single frame data acquisition were used. Support for the acquisition of multiple frames of depth images may be found in the Specification, e.g., at paragraphs 101, 107, 135-137, 141, 144, 152, and 154. Support for the TOF nature of the acquired depth images may be found in the Specification at paragraph 0094.

Support for the confidence enhancing aspect of amended claim 1 may be found in the Specification at paragraphs 0038, 0135, 0144, 0147, 0154, and 0165.

Thus, the presently claimed invention defined by amended claim 1 repeatedly captures multiple frames of TOF three-dimensional images, from which data may be determined representing occupancy of a seat within a scene being imaged, the determined data having a higher confidence level than if determinations were made based upon single frames of acquired data. This confidence enhancing plurality of frames information is used to repeatedly determine occupancy information, which occupancy information is useable to determine deployment level to intelligent control airbag deployment.

The Examiner cites Yasui as acquiring three-dimensional image data, pointing out Yasui's brief mention of acquisition of multiple sheets of data at col. 6, lines 21-32. But this brief mention by Yasui is hardly enabling. For example Yasui neither discloses nor suggests how in practice one might actually acquire data from multiple sheets of emitted IR to obtain three-dimensional information as to the object being imaged. How, for example, would Yasui determine which data came from which multiple sheet of IR, and represented which slice of the object being imaged? Simply stated, Yasui is not enabling in this respect and as such is not a viable reference for the matter asserted by the Examiner. While a non-enabling reference may indeed be a valid 35 USC §103 reference, it is only valid for those portions of the reference that are enabling; see MPEP 2121.01(b) "use of inoperative prior art".

But even if Yasui's data were "three-dimensional", and applicants assert otherwise, such data as Yasui acquires is not acquired using TOF information. In further contrast to the presently claimed invention, Yasui is silent as to acquiring many frames of data from which higher confidence level information can be gleaned before a triggering event. Yasui's classification and occupant position determination uses one frame of information at a time, in contrast to applicants' decision making based upon multiple frames of information at a time. Applicants' holistic use of multiple frames from which

data-mining can yield high confidence level classification and occupant position information is neither described nor disclosed in Yasui.

Thus, Yasui fails to disclose every element set forth in amended claim 1, and Yasui must therefore be withdrawn as a 35 USC §102 reference. Further, for the reasons noted above, applicants also point out that amended claim 1 is patentable over Yasui as a 35 USC §103 reference.

AMENDED CLAIMS 2-14 ARE SUPPORTED BY THE SPECIFICATION
AND ARE PATENTABLE OVER YASUI '598

Amended claim 2 includes language from original claim 1(c), amended claim 3 includes the language of original claim 1(d), and amended claim 4 includes language from original claim 1(c) and 1(d).

Amended claim 5 recites that step (b) includes at least one of a hierarchical layered determination and a training algorithm. Support for applicants' hierarchical layered determination is found in the Specification at paragraph 0027 with respect to Fig. 14, and paragraphs 133-135. Support for applicants' training algorithm is found in the Specification at paragraphs 0147 and 0150 with respect to Fig. 15. Applicants note that Yasui is silent as to use of a hierarchical layered approach or a training algorithm.

Amended claim 6 includes subject matter recited in original claims 2, 3, 4, 12, and 13.

Amended claim 7 includes subject matter recited in original claims 5, 6, and 7.

Amended claim 8 is supported by the Specification, middle of paragraph 0147, and paragraph 0150. Claim 9 is amended to improve readability. Amended claim 10 includes the language from original claims 10 and 11. Amended claim 10 depends from amended claim 1, which as noted above is patentable over Yasui. Thus, amended claim 10 is patentable over Yasui. Amended claim 11 is supported by Fig. 18 and Specification paragraphs 0031, 0049, and 0167.

Amended claim 12 is supported by Table 1 and paragraph 0123 in the Specification. Amended claim 13 is supported by the Specification, paragraph 0123. Claim 14 is amended to improve readability.

AMENDED CLAIMS 15-28 TRACK CLAIMS 1-14
AND ARE PATENTABLE OVER YASUI

Amended claims 15-28 track, in system format, method claims 1-14. As such, amended claims 15-28 are supported by the Specification and are patentable over Yasui for the reasons stated with respect to amended claims 1-14.

AMENDED CLAIMS 29-31 ARE SUPPORTED AND ARE PATENTABLE OVER YASUI

Amended claim 29 is supported by the Specification, middle of paragraph 0147, and paragraph 0150. Amended claim 30 is supported by the Specification, paragraph 0150. Amended claim 31 is supported by Fig. 18. Each of amended claims 29-31 depends from amended claim 15, and is patentable over Yasui for the reasons stated with respect to amended claims 1-14.

Applicants incorporate by reference their analysis and comments with respect to Adolph, Breed, Hosoda, Stopper, as well as Yasui, as set forth at pages 9-13 in their 30 November 2006 Amendment. Applicants will therefor not further comment on these references other than to point out that amended independent claims 1 and 15 are patentable over the primary Yasui reference. All other pending claims depend from and further limit amended claims 1 and 15 and are patentable over the art of record.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants believe that a full and complete reply has been made to the outstanding final Office Action and, as such, the present RCE application is in condition for allowance. If the Examiner believes, for any reason, that

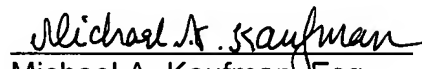
personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

Prompt and favorable consideration of this Amendment and Response is respectfully requested.

Respectfully submitted,

CANESTA, INC.

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Michael A. Kaufman, Esq.
Reg. No. 32,998

CANESTA, INC.
440 No. Wolfe Road, Ste. 101
Sunnyvale, CA 94085
Tel.: 408-524-1457
FAX: 408-530-1527